

*How we decide
and who gets to decide
often determines what we decide.*



ENVIRONMENTAL GOVERNANCE

WHOSE VOICE? WHOSE CHOICE?

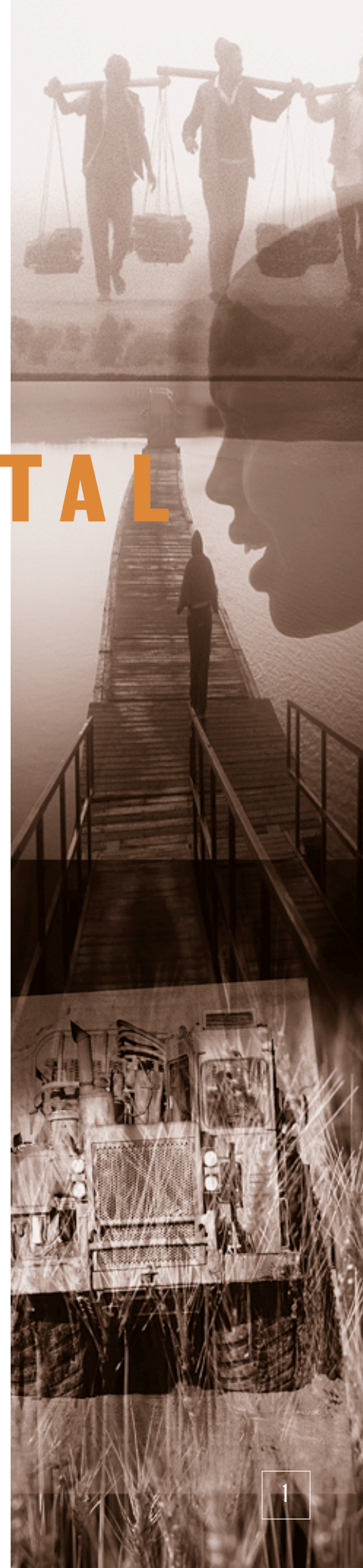
Who decides the fate of ecosystems? Who manages nature?

Earth has no CEO. No Board of Directors. No management team charged with extracting resources responsibly or maintaining the living factories—the forests, farms, oceans, grasslands, and rivers—that underlie our wealth. No business plan for a sustainable future.

Of course, the biosphere is no standard corporation. But every day we make what amount to management decisions that affect the planet's bottom line—the habitability and productive capacity of ecosystems.

Who Makes Environmental Decisions?

Who should decide whether to build a road or a dam, or how much timber or fish to harvest? What difference does it make if the public is consulted? Do democratic rights and civil liberties contribute to better environmental management? Should local citizens or advocacy groups have the right to appeal a decision they believe harms an ecosystem or is unfair? What is the best way to fight corruption among those who manage our forests, water, parks, and mineral resources? These are all questions about *how* we make environmental decisions and *who* makes them—the process we call *environmental governance*.



In fact, managing Planet Earth is a collective and largely uncoordinated affair. It is the sum of the myriad decisions we make that directly or indirectly bear on the environment. In essence, the state of Earth's environment is a living reflection of our daily decisions.

The Scope of Our Decisions

Our environmental decisions occur in many contexts. They begin with personal choices like whether we will walk or drive to work, how much firewood we will burn, or whether we will have another child. They encompass the business decisions that communities or corporations make about where to locate their facilities, how much to emphasize eco-friendly product design, and how much land to preserve. They include national laws we enact to regulate pollution, manage public land, or regulate trade. They take in the international commitments we make to abide by fishing limits, regulate trade in endangered species, or limit acid rain or CO₂ emissions.

Our decisions also involve a wide range of actors: individuals; local, state, and national governments; community and tribal authorities; civic organizations, interest groups, and labor unions; national and transnational corporations; scientists; and international bodies such as the United Nations, the European Union, and the World Trade Organization. Each of these actors has different interests, different levels of authority, and different information, making their interactions complex and frequently putting their decisions at odds with the ecological processes that sustain the natural systems we depend on (see Figure 1.1).

Maybe that is why our record of environmental care is so poor. Year by year, as our population and consumption levels increase, our impacts on the environment spin out on a wider arc. More forests are converted to farmlands and suburbs; a greater share of freshwater resources is siphoned off, dammed, or diverted; the genetic wealth of species is lost to uncontrolled harvests and habitat loss; the global atmosphere is steadily compromised by greenhouse gases. Each of these trends marks a failure of our *environmental governance*—the term we use to describe how we as humans exercise our authority over natural resources and natural systems.

Governance Is Crucial

World Resources 2002–2004 explores the importance of environmental governance—how we make decisions about the environment and who participates in these decisions. *How* we decide, and *who* gets to decide often determines *what* we decide, so questions of governance are crucial. They can mark the difference between environmental improvement or harm, between an effective environmental policy or one that is ignored, between success and failure in managing ecosystems and natural resources (see Box 1.1).



**Environmental governance is
the exercise of authority over
natural resources and the
environment.**

In this report we put forth the thesis that improving the processes and institutions we use to make important environmental decisions—from whether to build a dam to how to manage a park or where to build a road—will bring better results, with less environmental impact and a fairer distribution of costs and benefits. Likewise, if we do not address our governance failures—from corrupt or inept agencies to decision-making that doesn't reflect the needs of people or the complex nature of ecosystems—our attempts to manage the environment will continue to be ineffective and unfair, with little chance of finding a path toward sustainability.

World Resources 2002–2004 also asserts that one of the most direct routes to better environmental decisions is to provide easy access to environmental information and encourage broad participation—direct or indirect—in environmental decisions. When those affected by a decision can participate in the process, we believe the result is likely to be fairer, more environmentally sound, and more broadly accepted. This “environmental empowerment” of the public can bring accountability to local, regional, and international decisions and can harness the energy and creativity of those with the greatest stake in successful environmental management: the people who live in or depend on the affected ecosystems.

In its examination of environmental governance, *World Resources 2002–2004* calls on a ground-breaking analysis of the openness and accessibility of environmental decision-making in nine nations. The results of the Access Initiative, a project undertaken by an international consortium of 25 public interest groups, give a detailed picture of how well the public in the surveyed nations can participate in local and national decisions about the natural environments they live in. They offer a road map to better governance by identifying the kinds of information and involvement people require to become active partners in ecosystem management.

Of course, poor natural resource management is but one factor in the world's diminished environmental state. The drivers of ecosystem degradation are rooted in an economic system that often rewards exploitation rather than stewardship of natural systems. They manifest in an inequitable distribution of property and power over natural resources and ecosystems, so that environmental benefits are not equally shared. They express themselves in rising per capita consumption in developed nations, and relentless population growth as well as a persistent legacy of poverty in the developing world—all factors that increase demand for what ecosystems can yield. But these drivers, too, are failures of governance—of inadequate

Box 1.1 Who Governs Nature?

How we make decisions determines how effectively these decisions are used to manage nature and how fair they are to the people affected. When people participate in nature-related decisions that affect them, they are more likely to support these decisions, and the decisions are more likely to be successfully implemented. When they are left out, it is often a recipe for conflict, inequity, and environmental harm.

When construction workers completed the Kedung Ombo Dam on the Indonesian island of Java in 1989, the rising waters displaced some 5,000 unhappy families in the villages of the Serang River Valley. The decision to build the dam was made far from the Serang Valley and without consulting the local population. A government-sponsored plan promised land and financial assistance to relocate to Sumatra, but many of the villagers chose to stay and fight rather than move thousands of kilometers away. Instead, the government was forced to establish villages in a nearby forest tract to accommodate those residents who insisted on remaining in the valley. Other families live in the greenbelt around the dam that was intended to prevent erosion. In this case, lack of attention to local concerns led directly to a higher human and environmental toll (Rumansara 2000:123–126).

* * *

In 1998, the residents of Rarotonga in the Cook Islands revived a traditional practice of protecting sections of the island's lagoons and coral reefs from fishing and the harvesting of shellfish, coral, and other marine life. Islanders had noticed a decline in the number and size of marine life, in addition to coral bleaching and an invasion of starfish—a sign of reef stress. Outside environmental groups suggested that action was needed to keep the island's marine resources from further depletion. However, it was local initiative by the island's traditional chiefs, supported by the community, that precipitated action.

The chiefs have no legal powers to control resources, but they do still command public respect, and exercise community leadership. After consultation with local communities around

the island, five protected areas were established by common decree for an initial period of two years. Enforcement of the harvest bans is strictly by social means—through embarrassment—but local compliance is high. Community members are also responsible for monitoring the effects of the bans, which have brought quick recovery of sea cucumbers and other valuable species. Tourism has improved near the protected areas as well. The success of the bans has encouraged creation of two additional protected areas and extension of the harvest bans to five years. Fully 28 percent of the island's coastal area is now encompassed by protected areas, and community knowledge of and pride in the island's marine resources has risen measurably. Direct participation in the coastal management regime has brought wide public acceptance and effective local control of the marine resource (Evans 2002).

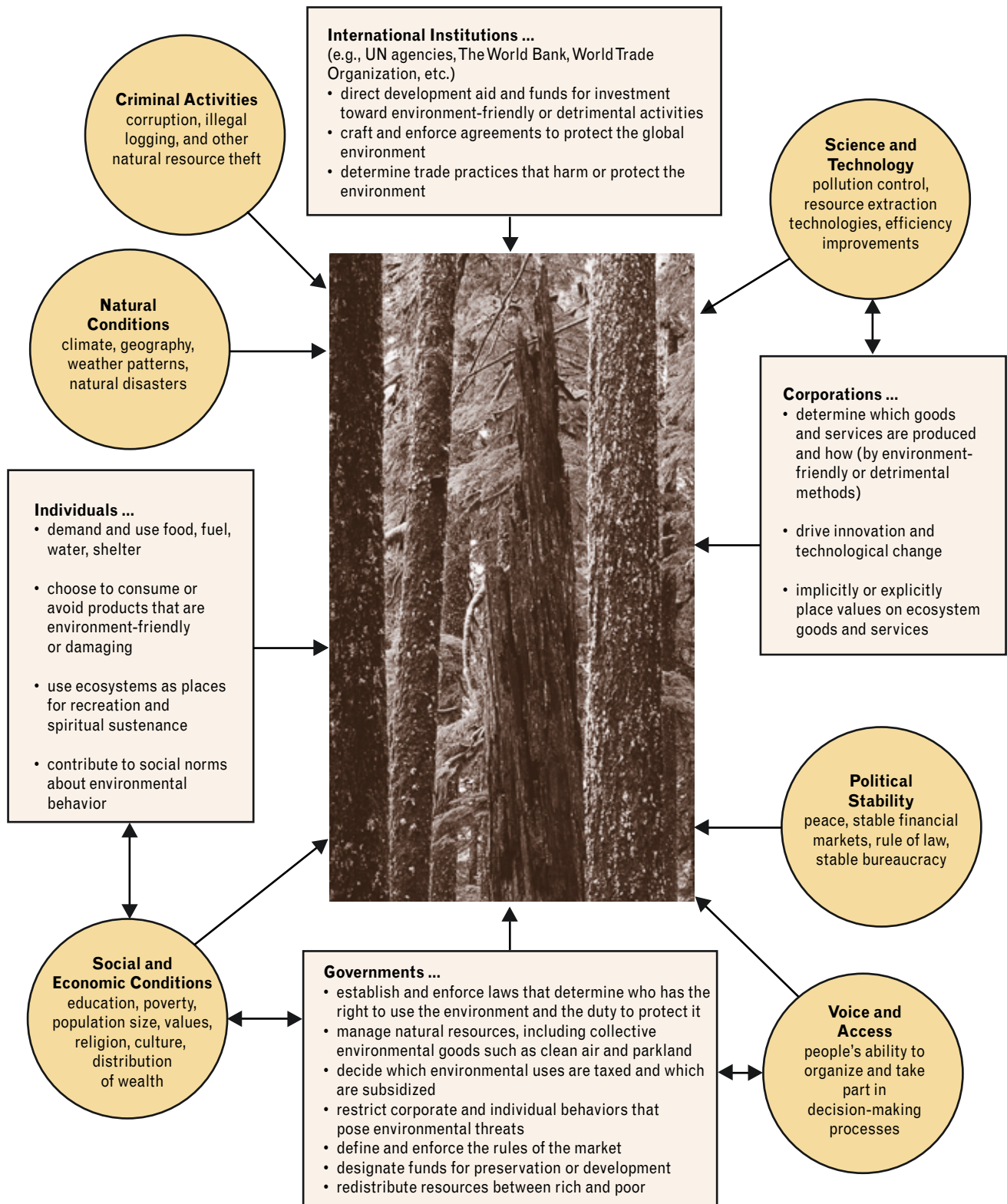
* * *

Autocratic decisions about who gets access to a country's natural wealth have the potential to prop up unpopular political regimes, spark armed conflict, and impoverish a nation.

In April 2002, President Charles Taylor of Liberia sold logging rights within the biologically rich Sabo National Park for several million dollars to Oriental Timber Company (OTC) of Hong Kong. The sale was made not as part of a deliberative process of park and forest planning, but as a unilateral measure to fund weapons purchases in contravention of a UN arms embargo against the country. UN reports show OTC logging ships transporting illegal munitions into Liberia and carrying timber out of the country for processing. The lucrative logging and weapons arrangement is part of a pattern of liquidating Liberia's forests and other natural resources such as rubber, diamonds, and iron ore to fund the government's war efforts. Liberia's impoverished citizens receive little payback in return, with the nation's education and healthcare systems destroyed and its economy in shambles (Farah 2002:A1; Global Witness 2001b:1–16; 2001a; 2001c; 2002).

Figure 1.1 A World of Influences on the Environment

Today's environmental conditions result from the interplay of a variety of physical, economic, and social forces and are affected by many different actors, from individuals to governments.



regulation and outmoded subsidies, of undemocratic processes, of weak leadership and widespread apathy. Better environmental governance will mean dealing with these root causes, as well as with failed models of resource management.

Ecosystems: The Governance Frontier

Ecosystems are the life support of the planet and the ultimate basis of the global economy. These communities of interdependent organisms are the biological engines that sustain us and contribute to our sense of place. In our millennial report *World Resources 2000–2001: People and Ecosystems: The Fraying Web of Life*, we documented people’s dependence on ecosystems and the goods and services they yield. These include the food we eat, as well as the water we drink and use for agriculture and industry. They also encompass the natural processes that purify water and air, decompose and recycle nutrients, prevent coastal erosion, and fulfill a hundred other essential functions that anchor our survival.

Because of their central and irreplaceable role in our well-being, ecosystems are the proper focus of environmental governance efforts. Without improving our environmental decision-making we can’t hope to manage ecosystems both to provide for our current needs and remain viable for the future.

Such management is no easy task, given the current precarious state of global ecosystems (see Box 1.2). In *World Resources 2000–2001* we assessed the capacity of the world’s ecosystems to sustain us. We reported the results of a systematic analysis of the condition of global ecosystems, concluding that ecosystems face a serious decline in their ability to provide the goods and services on which we depend. The current high production levels of ocean fisheries, temperate and tropical forests, and agricultural systems on every continent belie a progressive erosion in their biological capacity. Even as they support us, we are depleting them. At the same time, pressures on ecosystems relentlessly increase, with demand for land, water, wood, and grains projected to rise appreciably in the next two decades as population and consumption grow.

In this report—intended as a companion volume to *World Resources 2000–2001*—we assess the capacity of our social, economic, and political institutions to make decisions that will reverse these trends in ways that are both effective and fair. Governance is the essential human element of ecosystem management, with the task of interpreting the needs of all stakeholders within the biological realities of the ecosystem itself. Exploring how alternative methods of decision-making can bring about different—and better—outcomes is a starting point for improving ecosystem management.

What Is Environmental Governance?

“Who let this happen? Who’s responsible for this mess?” These are typical questions people ask themselves when local environmental disasters happen or when the steady deterioration of the global environment makes the news. For most

Box 1.2 Governance and Ecosystems

An ecosystem is a community of interacting organisms and the physical environment they live in. They are the productive engines of the planet—the source of food, water, and other biological goods and services that sustain us. To be effective, environmental governance must lead to fair and sustainable management of ecosystems. However, ecosystems bring special governance challenges:

Ecosystem scales differ: Ecosystems exist at multiple scales, from a single stream, bog, or meadow, to a major river system or regional forest. How can management structures be tailored to match?

Uses and users vary: Ecosystems produce many different goods and services—fish, timber, crops, recreation—and must serve many different stakeholders, from local residents to commercial harvesters. Not all these uses and users are compatible, but what is the optimum mix? How are trade-offs made and disputes resolved?

Threats are cumulative: Many ecosystem threats, such as habitat loss or agricultural run-off into waterways, come from cumulative actions that occur at different scales and from different sources. How can environmental policies address these large-scale and integrated threats?

Recovery while in use: Most ecosystems are already impaired in some way, but they remain under heavy use. How can use be moderated to allow recovery without disenfranchising those who depend on ecosystems for subsistence and employment?

Dependence and Impact on Ecosystems

Annual value of global agricultural production (Wood et al. 2000:40)	\$1.3 trillion
Percentage of global agricultural lands showing moderate to severe soil degradation (Wood et al. 2000:49)	52%
Population directly dependent on forests for survival (WCFS 1999:58)	350 million
Decline in global forest cover since preagricultural times (Bryant et al. 1997:12)	46%
Population dependent primarily on fish for protein (Williams 1996:3)	1 billion
Percentage of global fisheries overfished or fished at their biological limit (FAO 2000:10)	75%
Percentage of world population living in water-stressed river basins (Revenga et al. 2000:26)	41%
Percentage of normal global river flow extracted for human use (Revenga et al. 2000:25)	20%
Percentage of major river basins strongly or moderately fragmented by dams (Revenga et al. 2000:17)	60%
Percentage of terrestrial ecosystem area (land area) converted to agriculture and urban uses (WRI 2000:24)	29%

people, it is not obvious who is “in charge” of the environment, and how decisions are made about developing, using, or managing ecosystems.

Governance is about decisions and how we make them. It is about the exercise of authority; about being “in charge.” It relates to decision-makers at all levels—government managers and ministers, business people, property owners, farmers, and consumers. In short, it deals with who is responsible, how they wield their power, and how they are held accountable.

In this report, we look at governance specifically as it relates to the environment, and we try to evaluate it from the perspective of public empowerment and participation: Who has a voice? Who is empowered to make decisions that affect ecosystems and the communities that depend on them? Is it local communities? Private corporations? Government agencies? International organizations? (See Box 1.3.)

Property rights, including water, mineral, and other use rights granted by the state, are an important aspect of these questions. How are these rights awarded? To what extent should the public be involved when the exercise of these rights affects the surrounding environment and human communities? What about indigenous groups and the poor—who



are frequently deprived of these rights and robbed of a voice on local resource use? What if no one seems to “own” a resource, such as deep ocean fish stocks, and there is little effective control over its use? Absence of authority is a governance matter as well (see Box 1.4).

Environmental governance is also about the manner in which decisions are made: In secret or in public? Who has “a seat at the table” during deliberations? How are the interests of affected communities and ecosystems represented? How are decision-makers held responsible for the integrity of the process and for the results of their decisions?

Unfamiliar but Everyday

While the term “governance” may not be familiar, the themes of governance are all around us. U.S.-based Enron Corporation’s misleading energy trading practices. Human displacement by China’s Three Gorges Dam. “Salmon wars” between the United States and Canada over harvest limits for Pacific salmon. The struggle over whether genetically modified foods should be labeled or barred from trade. The political battle surrounding the Kyoto Protocol to address climate change. These cases deal with secret decisions, decisions that lack local backing, disputes over rules, over fairness, over protecting the public interest—all issues of authority and its consequences.

In fact, governance issues—and matters of environmental governance in particular—are extraordinarily dynamic today. The right of citizen participation; the transparency of organizations and processes; the need to address public corruption; the right to obtain information from governments and businesses about environmental conditions, pollutants, or land use decisions; the extent to which environmental protection should be included in global trade agreements: All of these are the subject not just of academic policy discussions, but of daily newspaper articles and heated public debate.

We see governance at work locally in decisions about whether we will log or graze a certain area, build a road through a park or a large undeveloped parcel, divert water from a river for farms or houses nearby. These decisions have obvious and immediate environmental impacts.

But governance reaches beyond these high-profile deliberations. It encompasses all the ways in which we exercise authority over the environment more generally, including the timing or overall strategy of management actions such as timber harvests or fishing limits; deciding financing and enforcement; and determining how the benefits from these actions will be allocated. Even the setting of economic policies—such as tariffs on imported logs, subsidies for fishing boats or renewable

energy, or giving a green light to foreign investment in a natural gas pipeline—is an important aspect of environmental governance, since such policies determine the economic incentives that drive business decisions and influence their environmental and social impacts.

Sometimes we use the term governance very broadly to describe not just the process of decision-making, but the actual management actions—where and when to log, or how to limit fishing or distribute grazing permits—that come from that process. In other words, in our day-to-day experience we intertwine environmental governance and ecosys-

tem management, which is where the real impact of decisions becomes visible. In truth, environmental governance goes beyond actual decisions on how to manage natural resources to include the decision-making framework—the laws, policies, regulations, bureaucracies, formal procedures, and codes of conduct—within which managers make their decisions. It sets the larger context that either enables or constrains management.

Does Governance Reach Beyond Governments?

A common mistake is to confuse governance with *government*—the set of institutions we normally associate with

political authority. Clearly, governments are important players in how ecosystems are managed and how natural resources are exploited or conserved. National laws and regulatory frameworks set formal rules for managing natural resources by recognizing discrete property, mineral, or water rights. They also establish the legal mandates of government agencies with responsibility for environmental protection and resource management. These are the institutions that we frequently associate with major environmental decisions and the responsibility to govern nature.

Governments also act internationally (often through the United Nations) to set ground rules about pollution, water use, fishing, and other activities that affect resources across

Box 1.3 Seven Elements of Environmental Governance

1 Institutions and Laws: *Who makes and enforces the rules for using natural resources? ■ What are the rules and the penalties for breaking them? ■ Who resolves disputes?*

Government ministries; regional water or pollution control boards; local zoning departments and governing councils; international bodies such as the United Nations or World Trade Organization; industry trade organizations. ■ Environmental and economic laws, policies, rules, treaties, and enforcement regimes; corporate codes of conduct. ■ Courts and administrative review panels.

2 Participation Rights and Representation: *How can the public influence or contest the rules over natural resources? ■ Who represents those who use or depend on natural resources when decisions on these resources are made?*

Freedom of Information laws; public hearings, reviews, and comment periods on environmental plans and actions; ability to sue in court, lodge a complaint, or demand an administrative review of a rule or decision. ■ Elected legislators, appointed representatives, nongovernmental organizations (NGOs) representing local people or other environmental stakeholders.

3 Authority Level: *At what level or scale—local, regional, national, international—does the authority over resources reside?*

Visible in: Distribution of official rulemaking, budgeting, and investment power at different levels of government (e.g., district forest office; regional air pollution control board; national agriculture ministry; international river basin authority).

4 Accountability and Transparency: *How do those who control and manage natural resources answer for their decisions, and to whom? ■ How open to scrutiny is the decision-making process?*

Mechanisms: Elections; public oversight bodies; performance reviews; opinion polls; financial audits; corporate boards of directors; stockholder meetings. ■ Availability of public records of rules, decisions, and complaints; corporate financial statements; public inventories of pollutant releases from industrial facilities, power plants, and water treatment facilities.

5 Property Rights and Tenure: *Who owns a natural resource or has the legal right to control it?*

Visible in: Land titles; water, mineral, fishing, or other use rights; tribal or traditional community-based property rights; logging, mining, and park recreation concessions.

6 Markets and Financial Flows: *How do financial practices, economic policies, and market behavior influence authority over natural resources?*

Visible in: Private sector investment patterns and lending practices; government aid and lending by multilateral development banks; trade policies and tariffs; corporate business strategies; organized consumer activities such as product boycotts or preferences; stockholder initiatives related to company environmental behavior.

7 Science and Risk: *How are ecological and social science incorporated into decisions on natural resource use to reduce risks to people and ecosystems and identify new opportunities?*

Mechanisms: Science advisory panels (e.g., Intergovernmental Panel on Climate Change); natural resource inventories (e.g., Food and Agriculture Organization of the United Nations biennial State of World Fisheries and Aquaculture report); ground- and satellite-based ecosystem monitoring programs (e.g., Millennium Ecosystem Assessment); national censuses and economic tracking; company health, safety, and environment reports.

Poor communities are particularly vulnerable to failed governance, because they rely more heavily on natural resources for subsistence and income.

political boundaries. One of the most visible aspects of this global environmental governance is a large set of international environmental treaties, including the Convention on Biological Diversity, the Kyoto Protocol on greenhouse gases, the Convention on the Law of the Sea, and the Montreal Protocol to protect the stratospheric ozone layer. Multilateral bodies such as the World Bank and the World Trade Organization are also taking on greater environmental significance in an increasingly globalized and interdependent world economy. The European Union, which is able to enter directly into international negotiations on behalf of its soon-to-be 25 member states, will also play a growing role.

But environmental governance goes beyond the official actions of government diplomats, regulators, and resource managers. It also includes the considerable amount of decision-making and influence that occurs outside formal government structures and organizations. In some cases, it involves corporations or individuals acting in the state's place to harvest or manage resources. States may grant forest or mining concessions to companies for a fee, in some instances allowing them broad discretion to cut trees, build roads, or make other important land use decisions. Or the state may privatize once-public functions like the delivery of water, electricity, or wastewater treatment, again putting a host of environmental choices—from water pricing to power plant construction—into private hands.

On the other hand, environmental governance includes the activities of nongovernmental organizations (NGOs) such as environmental groups, civic groups, neighborhood groups, and labor unions that, in recent decades, have become potent advocates for better and fairer environmental decisions. It also incorporates the actions of industry groups, trade associations, shareholder groups, and professional associations that influence the way companies do business by promoting (or obstructing) cleaner processes, better environmental accounting practices, and standards and codes of conduct, or by pointing out the financial liabilities of business practices that harm the environment.

Governance includes our individual choices and actions when these influence larger public policies or affect corporate behavior. Voting, lobbying, participating in public hearings, or joining environmental watchdog or monitoring groups are typical ways that we as individuals can influence environmental decisions. Our actions as consumers

are also powerful governance forces. For example, the choice to purchase environmentally friendly products like certified lumber or a fuel-efficient car influences the environmental behavior of businesses through the marketplace. Consumer choices can sometimes be as powerful as government regulations in influencing business decisions that affect the environment.

What Is At Stake?

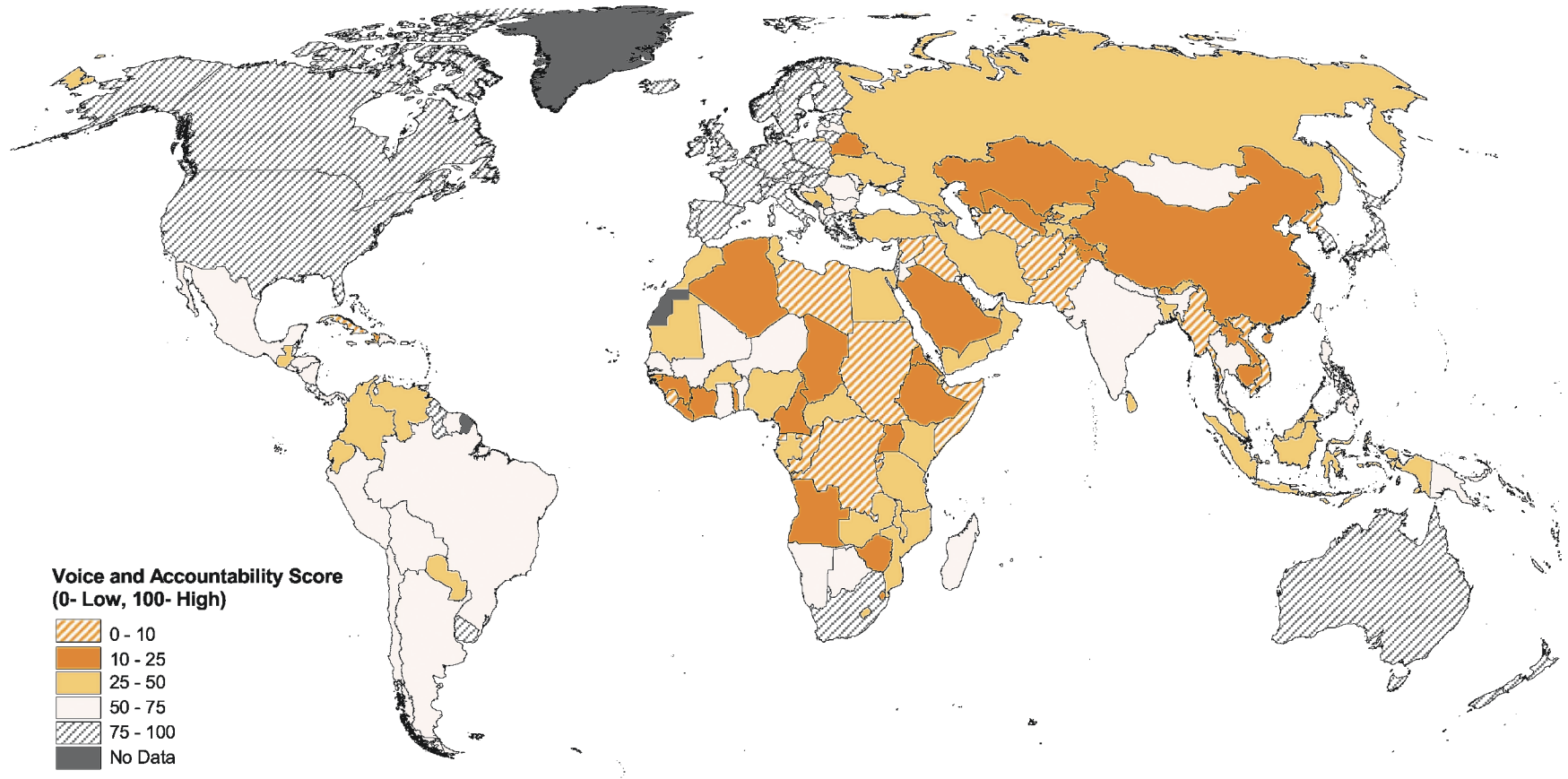
- The depletion of many marine fish stocks, such as cod, blue fin tuna, or patagonian toothfish, stems from the failure of government fishing ministries to effectively manage fishing rights. The fact that many fish stocks—such as



salmon and tuna—move between the waters of two or more nations magnifies the governance challenge and has led to conflict between countries.

- Disruption of the world's river systems with dams and canals that alter normal hydrological cycles is often the result of compartmentalized decision-making, in which plans to build dams, generate electricity, extend irrigated agriculture, and fill wetlands have been formulated without considering possible impacts on downstream water users or the aquatic environment itself.
 - Forest degradation is often caused by timber companies that gain access to forest resources through corrupt
- (continued on p. 12)*

Governance Matters: Voice and Accountability, 2002



Source: Kaufmann et al. 2002

The extent to which citizens are able to participate in the political and decision-making processes, give voice to their concerns, and hold their government representatives accountable is an important dimension of governance. The voice and accountability scores assigned here are based on indicators of political and civil

liberties extended to a country's citizens, as well as the independence of media, which play an important role in monitoring governance performance. The scores were calculated by the World Bank.

Box 1.4 What About Ownership? Property Rights and Governance

Ownership is a common avenue to authority over resources. Ownership of land or the right to use a resource found on it—such as water, mineral, or harvest rights—means control. A land or resource owner often controls physical access to a site and has the principal say in all sorts of land use decisions: how often to harvest trees and whether to reforest, the number of livestock to graze, whether to clear land for crops and how much pesticide to use.

While it may seem simple, ownership actually has a complex relationship with environmental governance. How property rights or ownership are defined, who benefits from these rights, and how they are enforced are central issues. Insecurity of ownership, mismatches between state and indigenous forms of ownership, and unequal distribution of ownership are frequent sources of conflict and poor environmental decisions. Also, the problem of managing “common pool” resources like ocean fish stocks or groundwater supplies that do not seem to have owners is one of today’s most vexing governance challenges.

Understanding Property Rights and Tenure

Property rights—the slate of rights that come with ownership—fall into a few basic categories. The most primary right is the *use right*—the right to harvest or exploit a land’s resources, to occupy the land, and to make permanent improvements on it. The *transfer right* gives the owner the right to sell, give, lease, or bequeath the land and its resources, while the *exclusion right* gives the owner the right to keep others from using the resource. Finally, the *enforcement right* guarantees all other rights by providing for financial or social consequences when they are not honored (Rukuni 1999:3–4). Together, these property rights provide the basis of tenure—what we commonly think of as property ownership.


Tenure takes four basic forms (Rukuni 1999:4; McCay 2000:69; Burger et al. 2001:4–5). From an environmental governance standpoint, each has strengths and weaknesses:

- **Private**, or owned by an individual, corporation, or institution. Private ownership provides an incentive to maintain and continue to benefit from a property’s resources, but also allows destructive land practices without giving a voice to others who may be affected by the owner’s decisions.
- **Communal**, or owned in common by a defined group of individuals, such as a village, tribe, or commune. Communal ownership may more efficiently share resources among those dependent on them, but can be harder to define, govern, and enforce in the formal legal terms demanded by modern state authorities.
- **State**, or owned by the government. State ownership can allow diverse elements of the public to benefit from the land’s resources, but states frequently lack the capacity to manage their land efficiently and sustainably in the face of public and commercial demand.
- **Open access**, or owned by no one. Most land that appears to be open access is actually state or communal land where the state or community lacks the ability to enforce rules about its use. Open access lands are often subject to heavy and unsustainable use, but constitute one of the few resources available for landless or low-income families.

In practice, these basic forms of ownership appear in a variety of combinations, often with competing rights and obligations (McCay 2000:69; Burger et al. 2001:4–5). For instance, private ownership is the most prevalent tenure arrangement in Western Europe and North America, with an emphasis on carefully drawn titles and formal leases. However, building codes, local zoning rules, and environmental regulations circumscribe the rights of the private property owner, giving the state—and often the public—a voice in private land use. In fact, how much the state should be able to modify private property rights to protect the environment is currently a controversial governance question in the United States.

In response, some new ownership arrangements try to accommodate public conservation and environmental objectives within the private property regime (McCay 2000:70). These include creation of conservation easements, where a private land owner sells or gives up the right to develop or harvest a site, while retaining other ownership rights. Land trusts—nongovernmental groups that negotiate conservation easements or acquire land outright to maintain as open space—help bridge the private property market and the preservation of public goods like open space, access to recreation, and intact natural habitat. In the United States, for example, some 1,200 nonprofit land trusts have protected more than 6.2 million acres from development (LTA 2003; TPL 2003).

In much of Africa, Asia, and South America, the situation is different. State-sanctioned, titled land ownership is a relatively unusual concept, especially for indigenous and rural populations. The historical norm was communal tenure, often mediated by local chiefs and elders. In Africa, for example, tenure systems allocated farming or grazing rights based on inheritance or the decisions of village elders, but the land itself was not owned in the sense of being a salable commodity (Bruce 1998b:3, 1998a:9; Agbosu 2000:13). In these areas, governance problems often revolve around the uneasy transition from traditional ownership practices to more formalized state arrangements.



The colonial era introduced the concepts of private and state ownership to many countries, and these practices were greatly expanded following independence (Bruce 1998a:4–5, 8). In many cases, the newly independent state claimed most of what had been communal land, but the land often continued to be controlled by local custom. This disjuncture between de facto local control and official state ownership often becomes a platform for conflict, leaves local residents unsure of their ownership rights, and opens an avenue for corrupt or unsustainable use of disputed land by opportunists (Rukuni 1999:2).

Individual vs. Communal Ownership

Security of ownership is important to anyone who relies on land or natural resources for livelihood, income, or shelter. *Secure tenure* is usually associated with having one's ownership or use rights formally recognized by traditional authorities in a community, or legally recognized by the state—often in the form of a title.

Security of tenure is often a deciding factor in how people use or abuse land and resources. Without confidence in their property rights, or lacking any guarantee of rights for a long duration—say, if involuntary removal from land seems likely—people have little incentive to invest in or improve the resource. For example, research shows that Sumatran rubber tappers with short-term leases tend to overexploit their rubber trees—compared to permanent owners—in order to increase short-term returns (Suyanto et al. 2001:1).

Promoting secure tenure can involve helping individuals to legally register or gain title to lands they are already using, though these may be state or communal lands. The private ownership that this titling confers can offer many incentives. The owner reaps the benefits of investments he makes in wells, terraces, soil amendments, and other good stewardship practices. Under the right market conditions, formal land ownership also allows farmers to borrow against their land, making capital available to fund improvements that would otherwise be beyond the reach of small landowners.

However, private ownership is only one way to bring secure tenure and encourage sustainable decision-making. Communal tenure, for example, can offer full security within a collective framework. In Africa, communal ownership is at the heart of the traditional or customary tenure systems that still dominate land use in rural areas. In these customary systems of ownership, some use rights, such as use of arable or residential lands, may be held by individuals and passed on within a family, while access rights to pastures, forests, mountain areas, waterways, and sacred areas may be shared (Bruce 1998a:8–10; Rukuni 1999:1–5; Toulmin and Quan 2000:35–36).

Communal tenure systems are under increasing pressure to reflect changes in national economies and political structures. In Mali, for example, local land markets have sprung up in areas where cash crops like cotton have supplanted subsistence crops, reflecting the newly realized commercial value of the land (Bruce 1998a:10). Most national governments have also actively discouraged customary tenure systems in an attempt to encourage economic growth (Bruce 1998a:6–11; Rukuni 1999:1–2; Toulmin and Quan 2000:34). The assumption—largely disproved by recent experience—was that private ownership would better foster the investment and productivity increases that modern states depend on for growth.

Such shifts toward private ownership systems have frequently become the basis for battles among local residents, commercial interests, and government agencies. In Indonesia, for example, the central government has often ignored traditional forest tenure arrangements (known as *adat*) when selling timber concessions to private logging companies, incurring the anger of local residents who have lost use of the forest without compensation (WRI 2000:36–37).

Government land titling and registration programs meant to shift communal tenure toward private ownership and private enterprise have also met with difficulties. These policies have, in some cases, contributed to poverty and landlessness by undermining customary land rights and providing a route to concentrate land ownership in the hands of private interests and political elites. In Kenya, a land registration program active since the 1950s has been accompanied by heightened inequalities in land ownership, increased land disputes between title holders and holders of customary rights, and increased insecurity among widows and poor farmers who find the cost of registration prohibitive (Toulmin and Quan 2000:34–37).

Avoiding a “Tragedy of the Commons”

As Africa and parts of Asia grapple with the transition to new ownership patterns, the experience of local groups with managing communal property is perhaps more relevant than ever. “Common pool” resources like public grazing areas, fisheries, water resources, and forest areas are particularly difficult to govern, precisely because no one individual has an exclusive right to use them, yet each person's use tends to diminish the remaining resource.

In 1968, author Garrett Hardin highlighted the vulnerability of common pool resources when he popularized the concept of the “tragedy of the commons.” He argued that open access resources will inevitably be overexploited (Hardin 1968:1244). The state of global fish stocks is perhaps the purest modern

(continued on next page)

Box 1.4 (continued)

expression of Hardin's thesis. In many areas, fishermen have relatively open access to fishing grounds and little effective regulation of their activities. Competition for fish and lack of sanctions for overuse have left many fish stocks depleted.

But in the 35 years since Hardin's analysis, research has shown that degradation of common pool resources is not inevitable (Feeny et al. 1990:1–19; Ostrom et al. 1999:278–282). In fact, many instances of community management of communal property show that where traditional ownership systems remain intact, few resources are completely “open access.” Most are governed through social and institutional arrangements that recognize the advantages of sharing resources among a limited number of community members with prescribed rules of behavior. In Kenya, for example, each Maasai community reserves dry season pastures that can only be used when no forage is available elsewhere. By accommodat-

ing neighboring groups in times of need, each group increases the expectation that they will have access to pasture in lean times, thereby improving their own security (Seno and Shaw 2002:79–80).

What are the conditions that lead to good community management of common resources? Research on thousands of cases of community-based management shows that key factors in success include a community-wide understanding of the value and scarcity of the resource; good communication among community members; an effort to monitor whether rules for use are followed; a credible system of sanctions when rules are broken; and a mechanism to resolve disputes. Government recognition of the community's right to manage the resource itself, ensuring that local authority is not undermined, is also a crucial precondition for success (Ostrom 1990:90–102; Ostrom et al. 1999:281; Jensen 2000:642).

practices. The problem is exacerbated by the failure of government agencies to enforce forest protection laws, or by management approaches that emphasize commodity production at the expense of forest health.

- At the global level, the refusal of the United States and a few other nations to embrace the Kyoto Protocol or negotiate other measures to systematically cut greenhouse gas emissions thwarts international efforts to deal with a global problem.

The inability of government institutions to manage ecosystems for their health rather than simply for maximum yield, to apportion the costs and benefits of natural resource use fairly, to manage resources across departmental and political boundaries, or to confront the disease of corruption are hallmarks of poor environmental governance. Many business decision-makers have compounded these problems by marginalizing environmental concerns in their business models.

As a result, ecosystems remain at great jeopardy, and with them the livelihoods and continued well-being of communities everywhere. Poor communities are particularly vulnerable to failed governance, since they rely more heavily on natural resources for subsistence and income, and are less likely to share in property rights that give them legal control over these resources.

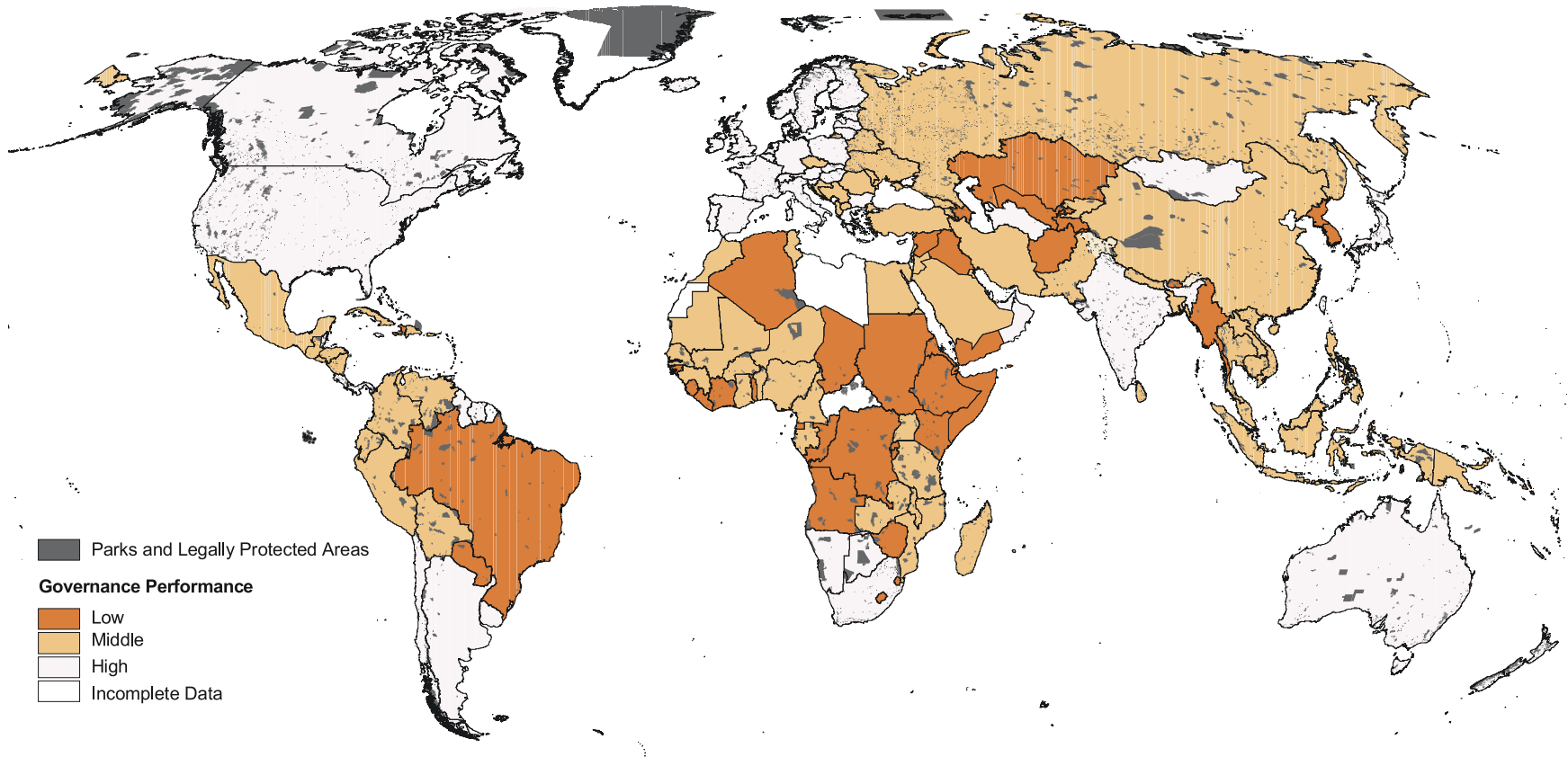
On the other hand, improved environmental governance holds promise for reversing ecosystem degradation by more carefully balancing human needs and ecosystem processes.

- In the Indian states of West Bengal, Orissa, and several others, a change in the states' forest policies has led to a significant recovery of degraded forests and the biodiver-

sity they harbor. Rather than treat local people as interlopers on state-owned forest lands, the state is allowing local communities to manage some of the forests themselves. Local people share the increased productivity of the recovering forests with the state, providing a strong incentive for long-term stewardship and self-policing (WRI et al. 2000:192).

- In the Philippines, cooperation among government officials, NGOs, indigenous and local communities, religious leaders, and the media has helped reduce illegal logging (Hofer 1997:236–238).
- In the United Kingdom, a law requiring industrial facilities to provide information to the public about toxic releases has directly contributed to a 40 percent reduction in releases of cancer-causing substances to the air over the past three years (FOE-UK 2002).
- South Africa's recent water reforms take an unusually far-sighted, ecologically grounded approach to resource management. Laws enacted in 1997 and 1998 mandate that the country maintain an environmental “reserve”—the amount of water that freshwater ecosystems require to remain robust—while also ensuring access to a basic provision of water as every citizen's “right,” and vastly expanding the scope for local participation in water management (WRI et al. 2000:200).
- At the international level, the Montreal Protocol on Substances that Deplete the Ozone Layer—a treaty concluded in 1987—has been instrumental in nearly eliminating the manufacture and use of chemicals that harm the stratos-

Sustainable Parks? Protected Areas and Governance



Sources:

UNEP-WCMC 2003
Kaufmann et al. 2002

Poor governance performance threatens the viability of protected areas over the long term. More than half of all protected areas occur in nations whose governance performance is poor or medium. Poor governance may translate to reduced capacity for park management, including planning, monitoring, and enforcement. It may also lead to greater risk of corrupt or illegal use of park resources, and a greater

chance of conflict with local residents, who may not be given a voice in decisions about their tenure in and access to protected areas. Governance performance was calculated from the World Bank's Voice and Accountability index and the Government Effectiveness index.

pheric ozone layer in developed countries. And through the treaty's innovative financing mechanism, developing countries have cut their consumption of these chemicals by 25 percent since 1997, on the way to fully phasing them out by 2010 (Andersen and Sarma 2002:279).

Better Governance, Better Equity

One of the strongest arguments for encouraging better governance is that it requires us to focus on the social dimensions of natural resource use and ecosystem management, in addition to the technical details of how to manage. This includes how we value ecosystems, how we set management goals, how we negotiate trade-offs between conflicting uses or goals, and, finally, how we make sure the costs and benefits of our decisions—including impacts on the poor—are equitably shared (see Box 1.5). In fact, a focus on governance adds an explicit considera-

A focus on governance adds an explicit consideration of fairness to the goals of ecosystem management.

tion of fairness to the goals of ecosystem management.

Science and technology can help us answer questions about what kinds of management actions are most effective in protecting or restoring ecological integrity. For example, conservation science can estimate how large an area of forest we should preserve to ensure the survival of various species of wildlife or plants. Atmospheric science can model how quickly greenhouse gas emissions must be reduced to stabi-

The Importance of Environmental Institutions

Environmental governance is inevitably associated with organizations such as government agencies, where official authority over the environment often resides, and where rules are codified, interpreted, and enforced. These commonly include local or provincial-level natural resource agencies and national ministries of environment, forestry, agriculture, mining, or finance, as well as environmental regulatory agencies.

At the international level are regional authorities such as the Mekong River Commission; multilateral development banks such as the World Bank or the Asian Development Bank; intergovernmental organizations such as the United Nations Environment Programme, the Food and Agriculture Organization of the United Nations, and the United Nations Development Programme; and international bodies that regulate trade and commerce, such as the World Trade Organization. Other organizations play important professional, legal, or scientific advisory roles, or set rules and standards that influence environmental decisions.

Because such organizations are critical to the official framework for environmental governance, their institutional failures are important contributors to today's environmental problems. Common failures include:

- *Lack of coordination among organizations.* Many separate organizations may share overlapping environmental responsibilities, but fail to coordinate their activities. Aquatic, forest, grassland, and agricultural ecosystems may exist in close proximity and require integrated approaches for effective management, yet fall under the authority of different agencies. Often, these organizations compete for budget, jurisdiction, and influence within the government, increasing their

insularity. Similarly, governing bodies at the local, national, and international levels frequently fail to integrate their management approaches and decision-making processes.

- *Marginalization of environmental departments, programs, and ministries.* Environment ministries often become bureaucratic islands isolated from other ministries that affect the environment. Once a separate environmental unit is created—whether as a ministry in a national government, a department of a multilateral development bank, or a division of a private company—there is a tendency for all the other units to assume that concern for the environment is not their job. Yet, these separate environment units are seldom sufficiently powerful to influence most decisions that may have significant environmental impacts.
- *Lack of transparency and accountability.* Some organizations have taken pains to create public communication channels and to establish processes, such as public hearings, that allow for participation in environmental decisions. However, many organizations still lack adequate mechanisms for transparency and accountability. Finance and trade, for example, are areas where public transparency and accountability have traditionally been limited. Thus, the World Trade Organization—whose decisions can profoundly affect national environmental standards and influence enforcement of treaties such as the Convention on International Trade in Endangered Species (CITES)—has typically kept its trade negotiations secret and without any meaningful avenue for public input.



lize their build-up in the atmosphere and avoid catastrophic changes in the global climate system.

However, conservation science cannot tell us how best to resolve conflicts between local communities and logging companies over the fate of a forest, and atmospheric science cannot tell us how responsibility for reducing emissions should be distributed. These are governance questions, involving the balance of ethical and moral concerns, social and economic goals, and the capacities of natural systems.

Similarly, economic analysis can answer questions about the most efficient methods for achieving various ecosystem management objectives. For example, economic analysis can inform the design of a system of taxes and subsidies to encourage electricity producers to build more efficient power plants, or to encourage polluting factories to reduce their emissions.

But economic analysis cannot tell us how best to respond to community concerns over the siting of those power plants and factories. Again, it is the challenge of governance to answer questions such as “What’s fair?” “What’s the right balance?” and sometimes “Who benefits and bears the consequences?”—in addition to giving insights into what is efficient and effective in the real world of competing interests.

Participation and Accountability

Participation and accountability are two key concepts underpinning the principles and practice of environmental governance.

Participation

Meaningful participation brings influence. Those who participate in decision-making that affects ecosystems stand the best chance of having their interests represented. Managing ecosystems frequently involves deciding among trade-offs. For example, damming a river may provide farmers more irrigation water but lower the river’s fishing potential by interrupting annual spawning runs. Thus, participation by both farmers and fishermen is useful in negotiating how such trade-offs should be made and how the “losers” should be compensated.

Public participation also brings legitimacy, improving the credibility and effectiveness of decision-making processes. Stakeholders can identify conflicts and potential problems that resource managers may have overlooked at an early stage. When all stakeholders have a voice and time is taken to find acceptable solutions, public confidence in the fairness of the decision increases. Especially for large or controversial projects, public involvement in one form or another is required for any broad-based consensus behind the final decision (Bruch 2001:11390–11391).

Failure to provide for public input can bring just the opposite: conflict and resistance. For example, the resettlement of communities to make way for alternative land uses—ranging from hydroelectric dams to national parks—has been one of the most contentious public policy issues in both industrialized and developing countries. One reason is that the communities to be resettled often have not been consulted until *after* key decisions have been made.

In an attempt to address the root causes of such conflict, the World Commission on Dams proposed in its recent report a “rights and risks” approach to decision-making around development projects like dams. In this approach, anyone holding a right or facing a risk relevant to a proposed action must have the opportunity to participate in the decision-making process.

Mechanisms to ensure participation in environmental decision-making can take many forms. In democracies, the election or nomination of executives, legislators, or other representatives, and the selection of judges provide one way of giving citizens a voice in public policies related to the environment. However, the environment is often only one among many concerns of the electorate, and a candidate’s environmental record is seldom the principal factor in determining the outcome of an election. Mechanisms for direct participation are often used to supplement or substitute for elections. For example, in many countries, national policies require that public hearings be held when the environmental impacts of proposed projects are being assessed (see Box 1.6).

A common challenge to ensuring participation in environmental decision-making is that not all affected stakeholders are equally well-positioned to express their views. For example, at the community level, cultural norms may discourage women from speaking in public, or even from attending a village meeting at which a proposed project is being discussed.

Box 1.5 Poverty and Environmental Governance

Better environmental governance holds special promise for the poor—the people most vulnerable to environmental degradation, and the people whose opinions and ideas are most often muted in environmental decisions. More than 1.2 billion people—including more than 40 percent of the population in sub-Saharan Africa and South Asia (World Bank 2001:23), and about one fifth of the population worldwide—live on less than \$1 per day. Another 1.6 billion live on less than \$2 (World Bank 2001:3).

But poverty means more than a lack of income. Poverty is also defined by increased vulnerability in a number of dimensions: vulnerability to environmental degradation or loss of access to natural resources, to employment scarcity, to property loss, to disease and ill health (IFAD 2001:2; World Bank 2001:15–21). Decisions about natural resources reach into all of these areas, and thus environmental governance failures often fall hardest on low-income families.

Marginal Lands, Marginal Voice

One of the greatest environmental vulnerabilities that poverty brings is a high dependence on natural resources for subsistence, particularly in rural areas. Low-income households typically rely much more on resources such as collectible forest products, fish, bushmeat, fodder, or surface water sources than better-off families. For example, a study of 80 villages in India showed that common property resources—such as community forest lands and grazing areas—provided 14–23 percent of total income for poorer families, while they provided only 1–3 percent of income for wealthier households (Jodha 1995). In Zimbabwe, studies in the 1990s showed that families obtained about one third of their income from environmental resources. The poorer the household, the greater the share of income from natural resources (Cavendish 1999:6–7; DFID et al. 2002:12). That means greater hardship when these resources degrade or disappear altogether.

The poor face even higher risks from environmental degradation because such a high percentage of poor families live on marginal lands. These lands may be arid, steeply sloped, or have low natural fertility—factors that limit their agricultural potential and make them subject to large swings in productivity as conditions change. Marginal lands are often prone to drought and are particularly vulnerable to land degradation, erosion, floods, and landslides. This makes them sensitive to changing land use patterns and increased population pressure, and increases the need for careful management (World Bank 2003:59–60).

The population on fragile lands has doubled in the last 50 years. Yet government decision-makers have paid only scant attention to these areas, and their governance records are unimpressive. Poor, rural families typically have very limited access to public services or decision-makers, and therefore



have little effective voice. Decisions on mining concessions, water projects, and other resource issues that affect them often bypass their input. Further, since the rural poor living on marginal lands contribute little to the formal economy, these areas have garnered little economic investment, deepening the cycle of poverty (World Bank 2003:59–60).

Urban Exposure

Marginalization and heightened vulnerability to inferior governance are not confined to the rural poor. In urban areas too, poverty means fewer choices about environmental matters. Numerous studies show that low-income families are more likely to live in polluted areas, for example (Wheeler 2002:96–98). An inventory of pollution releases in England shows that 90 percent of polluting factories in London are in areas with below-average income (FOE-UK 1999).

The poor's lack of effective voice in environmental decision-making is also well-documented. Low-income families are less likely to register official complaints about contamination, and thus less likely to benefit from regulatory attention, such as enforcement actions against polluting industries by government inspectors. One World Bank study in China found that, for citizens with similar levels of pollution exposure and education, those living in high-income provinces were more than twice as likely to file complaints as those residing in low-income provinces (Wheeler 2002:95).

Lack of voice has real consequences in terms of environmental equity. Environment agencies are often very sensitive to public input in the form of complaints. For instance, the pollution control authority in the Brazilian state of Rio de Janeiro focuses almost 100 percent of its inspection efforts on investigating citizen complaints, and a similar situation prevails in Indonesia. Since wealthier and more educated residents tend to wield more influence and also to complain more, it is therefore no surprise that regulatory action to clean up pollution is

often concentrated in wealthier municipalities or neighborhoods (Wheeler 2002:94–95).

Several factors contribute to the poor's lack of environmental voice. These include a lower capacity to organize for political action, a reluctance to take on government officials or business interests with political clout, and also a dearth of information about local pollution or other environmental problems and their effects. This information deficit and lack of political effectiveness mean that the interests of low-income families are frequently the last to be served in the decision-making process. Corruption only increases the marginalization of the poor.

Because of their lower social status, the poor are more likely to be subjected to exploitation, rudeness, intimidation, and even physical violence in their dealings with government institutions. The poor often complain of being demeaned and express the desire for greater respect from government service people and institutions (World Bank 2001:35–36). Given these circumstances, combined with their lack of voice, it is not surprising that the poor generally give government institutions low grades in terms of their fairness, accountability, and responsiveness.

Empowering the Poor

Since the late 1990s, strategies for tackling global poverty have begun to emphasize the importance of better governance, and the need to empower poor people to become their own advocates. The basic tools of poverty reduction are access to jobs, credit, education, and healthcare, as well as infrastructure like electricity, sanitation, roads, and irrigation. But delivery of these tools is inevitably affected by the efficiency and transparency of government institutions, and particularly by their accountability and accessibility to the poor (World Bank 2001:6–12).

The need for better access and participation is especially acute among the poor. When poor people are allowed to make their voices heard in political processes and local decision-making, and to insist on their rights in court, they are better able to protect their lands and claim a share of government resources. They are less likely to become victims of government decisions on parks, roads, dams, and forest concessions that often dispossess them of their lands without adequately compensating them (World Bank 2001:7, 9).

Making this kind of empowerment happen may at the beginning require specifically targeting the poor in participatory exercises, such as rural needs assessments, that build the capacity to participate. It will also require improving legal aid and disseminating information on legal procedures so that the poor know their rights. Promoting decentralization that devolves real control over local resources to rural residents can also be a powerful way to empower the poor, as well as bring government service agencies closer to poor communities. Attention to including women in decision-making circles will also be crucial for effective empowerment of poor communities, since women make up a high percentage of the poor (IFAD 2001:11; World Bank 2001:9–10).

Similarly, poorer households may not be able to afford to take time away from productive labor to attend such meetings. More broadly, barriers of distance, language, literacy, and connectivity can also prevent full participation.

Another difficulty is that, even if given the opportunity to participate, stakeholders may lack the capacity to become involved in as meaningful a way as they desire. They may not understand the costs and benefits of the management options or how those options could affect their own interests over time. Or they may not be able to call upon the same sophisticated planning tools or economic analyses that others may use to put forward a convincing case.

For example, when considering the benefits of a new road to an isolated community, some residents may have misgivings about environmental costs or changes to the community structure that road access could bring—but this may pale in comparison to official projections of economic benefits put forward by road advocates. Thus, capacity-building is often a necessary precursor to participation; the public may have to learn to be effective advocates for their interests. But even if many stakeholders lack the capacity to participate fully, the opportunity to participate at all can still increase public acceptance of the final decision.

A final challenge is how to represent the interests of nature itself in environmental decision-making. When negotiations over how to allocate limited natural resources take place, the need to protect ecosystem integrity or species survival does not always have a “seat at the table.” For example, when rights to use surface water are being distributed, environmentalists have argued that downstream ecosystems should also have a guaranteed share. During a drought in 2001, a controversy of just this type erupted over whether the farmers—or an endangered species of salmon—should have priority use of the water in the Klamath River Basin in the United States (Schoch 2001:9; Bailey 2002:10).

Accountability

Accountability refers to the way in which public and private sector decision-makers are held responsible for their actions. In other words, what recourse is available when public officials or agencies fail to fulfill their mandate to protect ecosystems? Or when corporations deliberately mislead or fail to perform as promised?

There are many types of accountability, but all involve the ability to sanction the decision-maker or responsible party in some way—the ability to punish or bring pressure to bear (Keohane 2003). For example, elected officials can be voted out of office at the next election if constituents are dissatisfied with their environmental policies or performance. Companies can be fined for exceeding pollution limits. Within companies, supervisors can fire employees if they fail to comply with environmental policies, while boards of directors or similar oversight committees can insist that CEOs bring environmental considerations into their business models.

Withholding money is one of the most common means of holding officials or agencies accountable. Legislatures can cut or reconfigure the budgets of forest or environment ministries if they don't fulfill their mandates. Multilateral agencies such as the World Bank can also be held accountable by legislatures through their roles in appropriating funds. Many of the environmental policies and procedures that the World Bank adopted in the early 1990s were prompted by threats from the U.S. Congress to withhold a portion of Bank funding (Bowles and Kormos 1995:791-808).

On the other hand, courts can restrict or redefine the authority of government agencies, or impose remedial actions on those agencies if it finds them environmentally remiss. In India, for example, the Supreme Court has held the city government of Delhi accountable for enforcing limits on industrial pollution and has vigorously implemented a ban on certain types of vehicle fuels with the goal of cleaning up the city's polluted air (CSE 2002).

Environmental accountability comes into play at the broader societal level as well. Investors and consumers can use the marketplace to punish or reward corporations

through their decisions about which companies to finance and which products to buy. For example, socially responsible investment funds offer investors a mechanism to invest only in companies that meet a certain standard of environmental performance.

Reputation is also a powerful leverage point for accountability. The desire to maintain a positive public image can be a major incentive for both government agencies and private corporations to improve their environmental practices. For example, unhappy with their growing international reputation for tolerating illegal logging in tropical rainforests, countries such as Indonesia and Cameroon have recently made public commitments to crack down on this practice (FWI and GFW 2002:x; WRI 2002).

All these levels of accountability depend on a flow of information about the decision-makers and the decision itself, so that it can be evaluated by the public, consumers, or individual stakeholders (Keohane 2003). Without knowing what decision was made, who was responsible, and what the intended outcome of the decision was, it is impossible to expect accountability. That is why environmental accountability is

Box 1.6 Avenues for Public Participation

Government staff may have the scientific expertise to decide whether to allow the construction of a new waste disposal site, or the marketing of a new pesticide, or to make any of a variety of other environmental decisions. So why is public involvement in such decisions so important? Won't public participation just be time-consuming, costly, and make it harder to reach an informed conclusion?

One key reason to involve the public is to ensure that government agencies are acting in the public interest, and that environmental policies reflect public values. Public participation can also help offset any undue industry influence over the regulatory system. Other ways that society benefits from public participation include (Beierle and Cayford 2002:4-6, 14-15):

- improving the quality of decisions (the public may provide site-specific knowledge, or offer suggestions that satisfy a wider range of interests);
- resolving conflict among competing interests (resulting in longer-lasting and more satisfying decisions, helping to overcome gridlock);
- building trust in institutions; and
- educating and informing the public.

Participation in environmental policy-making may be particularly beneficial because communities are often critical factors in the solutions to local environmental problems like transportation or watershed protection.

Public participation in environmental decision-making can take a variety of forms, depending on the kind of decision being made, the time and budget available to encourage public input, and the political and cultural circumstances of the decision. Some are relatively passive, with information flowing in only one direction. For example, a government agency may supply some specific information, such as a government report on air quality, in response to a citizen request. Other participation mechanisms are more interactive, involving discussions between decision-makers and citizens. Examples would be government consultation with citizens through town meetings, hearings, or advisory panels. Following are several typical avenues for public participation (ELI 1997:10-13):

Document review. The availability of project documents, policy analyses, or other background reports on the issue to be decided is an important element of informed and meaningful public input. Community members and other stakeholders increase their capacity to participate by reviewing background materials presented in a language and at a technical level they can understand. Available documents and reports also increase the accountability of decision-makers—as well as the perceived legitimacy of decisions—since there is a public record of project details and the decisions at issue.

inevitably tied to transparency—the openness of the decision-making process and its ability to be examined and judged.

Principles of Environmental Governance

The basic principles behind good environmental decision-making have been accepted for more than a decade. The 178 nations that attended the Rio Earth Summit in 1992 all endorsed these environmental governance principles when they signed the Rio Declaration on Environment and Development—a charter of 27 principles meant to guide the world community toward sustainable development. The international community re-emphasized the importance of these principles at the World Summit on Sustainable Development in 2002. The problem in applying these good governance practices is thus not their novelty, but the fact that they profoundly challenge our traditional government institutions and economic practices.

Make Decisions at the Appropriate Level

Often, decisions about ecosystems and natural resources are made far from those resources—perhaps in a capital city or an

agency’s regional headquarters—by people who lack local context or an understanding of how the decision will play out on the ground. In other words, decision-making tends to be centralized and isolated from the people and places affected. Sometimes a better approach is to let local communities or neighborhoods make decisions about the resources around them. In many instances, drawing on local knowledge can bring more informed decisions that serve local people and ecosystems better.

But local management may not always be appropriate or practical. Generally, the appropriate level for decision-making is determined by the scale of the natural system to be managed. Management of a small forested area could appropriately be undertaken by the communities that surround the forest, while management of a major river basin or an area of globally significant biodiversity might require cooperation across national borders.

Thus, finding the “appropriate level” for authority over ecosystem decisions sometimes requires devolving the authority to lower, more local levels of decision-making—what we have come to call decentralization. At other times it

Informational meetings. Natural resource managers can hold meetings at local, state, or national levels to provide basic information about proposed projects, such as where or how big a mine or road will be, or what kind of timber harvesting methods will be used. Such meetings can help build public support, identify local concerns, and develop collaborations with local groups.

Environmental Impact Assessments (EIAs). Environmental Impact Assessments are official analyses that detail the anticipated effects of planned projects or activities on local and regional areas, and explore options and alternatives for mitigating these effects. EIAs are critical planning documents in many nations, and often have important legal and political ramifications for whether the project goes forward or how it will be modified to reduce any negative impacts.

While the extent of public involvement in EIAs varies according to national laws, this tool can provide an opportunity for the public to comment on proposed projects and suggest alternatives. Some EIA laws include explicit procedures for government agencies to review and consider written comments, which are then factored into the agency’s approval or licensing decisions.

The comment procedure not only allows participation of the general public and advocacy groups, but also provides a vehicle for other government agencies, or officials from neighboring jurisdictions, to contribute input and influence the debate.

Public hearings. Public hearings provide the opportunity for all interested parties to give public feedback on proposed projects, laws, or environmental policies. Such hearings, announced via radio, newspapers, or other media, are particularly important for stakeholders who may not be able to express their views clearly in writing. They can provide a forum where stakeholders can inform each other of their opinions and ascertain where they stand, as well as give decision-makers a sense of the diversity of community opinion. While some hearings may be simply informative, others may involve more substantive evaluation, where competing project ideas or proposals are vetted publicly, and details of project design are debated point by point.

Advisory committees. Advisory committees allow participation that is more in-depth and continuous, and thus potentially much more influential. These committees allow a diverse group of stakeholders to be involved in crafting policies and designing and modifying projects to reduce impacts and distribute costs and benefits equitably.

Public role in implementation and monitoring. Depending on the nature of the project or policy, there may be scope for NGOs or other local groups to participate in its implementation, including project maintenance, monitoring, or oversight. Monitoring may also involve ongoing public hearings or reviews to ensure that the project or policy is producing the benefits originally anticipated.

involves relinquishing authority to higher levels with greater geographic and political reach. This is especially true when tackling problems such as air pollution and acid rain that have transboundary effects and require regional solutions.

This principle of assigning authority to match the scale of the resource (sometimes called the *subsidiarity principle*) often requires unbundling decisions previously combined at one level. For example, it might be appropriate for a national wildlife management agency to retain the authority for setting annual hunting licenses quotas based on large-scale trends in wildlife populations. But decisions about whether, when, and how to award such licenses within the established quota might best be left to local



Drawing on local knowledge can bring about more informed decisions that serve local people and ecosystems better.

governments or community organizations that can respond to local hunting practices and conditions. In this case, a higher level authority specifies the *outcome* of decision-making (the maximum number of hunting licenses awarded), while a lower level authority specifies the *procedure* (how hunting licenses are awarded).

In other cases, it may be best to let a higher level authority specify the procedure for decision-making, while a lower level authority specifies the outcome. In a national rural development program in Vietnam, for example, village-level development committees are required to have at least one female representative (Dupar and Badenoch 2002:44). However, they are not required to allocate funds for projects specifically directed to women's needs. Thus, in this case, the national authorities influence how budget decisions are made, but the budget decisions themselves remain at the local level.

Provide Access to Information, Participation, and Redress

The heart of good environmental governance is accessible decision-making—that is, decision-making that is transparent and open to public input and oversight. The Rio Declaration established that access has three primary elements: access to information, access to decision-making and the opportunity to participate, and access to redress and legal remedy. These three *access principles* must all be present for an effective system of public participation.

The first foundation of access is *information*: about the environment, about the decisions at hand and their envi-

ronmental implications, and about the decision-making process itself. Without these, meaningful public participa-

The Rio Declaration: Key Governance Principles

Principle 4

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

Principle 10

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Adopted by 178 nations, June 1992, Rio de Janeiro, United Nations Conference on Environment and Development

tion is impossible. For example, communities have a right to know about contaminants in local drinking water supplies and their potential health impacts, so that they can make informed decisions about whether to drink the water or not. Communities also need to be informed about proposed actions that might threaten drinking water quality—such as the opening of a hazardous waste storage site—so they can ensure that their interests are represented when these actions are debated.

Access to information comes in many forms, including the right to examine public records, obtain the data from environmental monitoring, or read technical or policy analyses done by resource management agencies. Having these materials available in appropriate languages is also part of access, since such information is useless if it can't be understood and acted on in a timely fashion.

In highland areas of Viet Nam and Cambodia, for example, members of ethnic minority communities often do not speak the national languages, and frequently, officials of the government's natural resource-related agencies do not know the ethnic minority languages. Access to environmental information in an appropriate language—and in non-written form—is particularly important for ethnic minority women. A pilot program for decentralized planning in Cambodia's Ratanakiri province was relatively successful in increasing community participation in local environment and development planning because it included language and literacy training for non-Khmer speakers (Dupar and Badenoch 2002:44).

A second foundation of access is the *opportunity to participate* in the decision-making process itself—the chance to give input and influence the decision-makers. In addition to opportunities for input on specific projects, such as the siting of a dam or the size of a timber harvest, the public also needs a chance to weigh in on the design of more general laws, policies, or regulations. Thus, new framework legislation related to forests or mining, changes in policies on land use planning, and revisions to regulations governing automobile emission standards should all be subject to hearings, comment periods, or other mechanisms to solicit public input, beginning at the earliest stages.

The third foundation of access is the *ability to seek redress or challenge a decision* if stakeholders consider it flawed or unfair. Usually this translates into giving the public access to judicial or administrative remedies if public officials fail to perform their management or decision-making roles appropriately. For example, forest advocates may wish to challenge the accuracy of an analysis that managers have used to set the size and location of a logging concession. Or if a government agency refuses on the grounds of national security to provide information about a project or facility with significant environmental impacts, citizens may want to appeal that decision to an independent arbiter (see Box 1.7).

Box 1.7 The Aarhus Convention: State-of-the-Art Access

The Aarhus Convention is an environmental treaty that turns the 1992 Rio Declaration's vague commitments to the principles of access into specific legal obligations. Since its negotiation in 1998 as a regional agreement among the countries of the United Nations Economic Commission for Europe (UNECE), 24 nations in Europe and Central Asia have become Parties to the treaty, and 40 have signed it. It entered into force in October 2001, and is now open to signature by all nations of the world.

The Convention not only recognizes the basic right of every person of present and future generations to a healthy environment but also specifies how the authorities at all levels will provide fair and transparent decision-making processes, access to information, and access to redress. For example, the Convention requires broad access to information about the state of air and atmosphere, water, land, and biological diversity; information about influences on the environment such as energy, noise, development plans, and policies; and information about how these influences affect human health and safety. A person does not need to prove "legal standing" to request information or to comment on official decisions that affect the environment, and the Convention requires that governments respond to requests for information from any person of any nationality within one month.

The Aarhus Convention also gives citizens, organizations, and governments the right to investigate and seek to curtail pollution caused by public and private entities in other countries that are parties to the treaty. For example, a Hungarian public interest group could demand information on airborne emissions from a Czech factory. For most signatory countries, meeting the standards of the treaty will require authorities to change how they disseminate environmental information to the public, to create new systems of environmental reporting by businesses and government, to improve the practice of public notification and comment, and to change judicial processes.

Adopting and implementing the Aarhus Convention's principles beyond its European base could provide a straightforward route to better access at a global level. But while there is growing interest in endorsing the Aarhus principles in Latin America, southern Africa, and the Asia-Pacific region, many countries perceive the treaty's concepts of democratic decision-making about the environment as too liberal or threatening to commercial confidentiality. Some countries are also reluctant to adopt a treaty that they did not have a chance to shape initially. Nonetheless, the Aarhus Convention stands as an example of real progress toward a global understanding of what access is and how it can be manifested in national laws and practices.

Integrate the Environment into All Decisions

The *integration principle* asserts that consideration for the environment should be part of virtually every major business, resource, or economic development decision. This means making the environment a frontline factor in decisions rather than marginalizing it as something to be protected, if possible, after the fact. Because a wide range of decisions in every sector of the economy affect ecosystems, ecosystem management and environmental protection cannot be the concerns of environmental policy-makers alone. Ecosystems must be the responsibility of those charged with promoting agriculture and industrial development, as well as those focused on providing or regulating electricity, transport, and water services. They must be the concern of private businesses as much as public agencies, of financial investors as much as fisheries or forest managers.

Bringing the goals of environmental sustainability into the decision-making practices of organizations that do not see environmental concerns as part of their core mandates is thus a critical challenge. For example, how can government agencies responsible for navigation and flood control be encouraged to conserve biodiversity when they alter the natural contours of rivers? How can multilateral development banks like the World Bank be encouraged to combine environmental sustainability with their efforts to reduce poverty?

How can financial markets be altered to enable investors to include environmental performance as a factor in deciding which company's shares to buy? At least part of the answer lies in improving access practices and governing at the correct scale—the first two Rio principles. Participatory management and open, transparent decision-making regarding economic issues gives people with environmental concerns the chance to raise them—to integrate their larger goals and priorities for the ecosystem with business decisions.

Reconsidering Environmental Governance

The issues posed by environmental governance are complex. Many cannot be easily or simply resolved. But the alternative to improved environmental governance is continued mismanagement of Earth's natural resources—with consequences for both current and future generations.

WRR 2002–2004 analyses the state of environmental governance today. It considers public participation and access—including new efforts to measure meaningful access. It examines the roles of civil society and the private sector, and looks at what is required to strengthen both local voices and global governance processes. In-depth case studies explore environmental governance issues in more specific detail. A final chapter draws together recommendations from across the volume.